IASIS HEX CARD

HEX LISTING

HEX	MNEMONIC	HEX	MNEMONIC	HEX	MNEMONIC	HEX	MNEMONIC	HEX	MNEMONIC	HEX	MNEMONIC	HEX	MNEMONIC
00	NOP	25	DCR H	4A	MOV C,D	6F	MOV L,A	94	SUB H	B9	CMP C	DE	SBI D8
01	LXI B,D16	26	MVI H,D8	4B	MOV C,E	70	MOV M,B	95	SUB L	BA	CMP D	DF	RST 3
02	STAX B	27	DAA	4C	MOV C,H	71	MOV M,C	96	SUB M	BB	CMP E	E0	RPO
03	INX B	28	---	4D	MOV C,L	72	MOV M,D	97	SUB A	BC	CMP H	E1	POP H
04	INR B	29	DAD H	4E	MOV C,M	73	MOV M,E	98	SBB B	BD	CMP L	E2	JPO Adr
05	DCR B	2A	LHLD Adr	4F	MOV C,A	74	MOV M,H	99	SBB C	BE	CMP M	E3	XTHL
06	MVI B,D8	2B	DCX H	50	MOV D,B	75	MOV M,L	9A	SBB D	BF	CMP A	E4	CPO Adr
07	RLC	2C	INR L	51	MOV D,C	76	HLT	9B	SBB E	C0	RNZ	E5	PUSH H
08	---	2D	DCR L	52	MOV D,D	77	MOV M,A	9C	SBB H	C1	POP B	E6	ANI D8
09	DAD B	2E	MVI L,D8	53	MOV D,E	78	MOV A,B	9D	SBB L	C2	JNZ Adr	E7	RST 4
0A	LDAX B	2F	CMA	54	MOV D,H	79	MOV A,C	9E	SBB M	C3	JMP Adr	E8	RPE
0B	DCX B	30	---	55	MOV D,L	7A	MOV A,D	9F	SBB A	C4	CNZ Adr	E9	PCHL
0C	INR C	31	LXI SP,D16	56	MOV D,M	7B	MOV A,E	A0	ANA B	C5	PUSH B	EA	JPE Adr
0D	DCR C	32	STA Adr	57	MOV D,A	7C	MOV A,H	A1	ANA C	C6	ADI D8	EB	XCHG
0E	MVI C,D8	33	INX SP	58	MOV E,B	7D	MOV A,L	A2	ANA D	C7	RST 0	EC	CPE Adr
0F	RRC	34	INR M	59	MOV E,C	7E	MOV A,M	A3	ANA E	C8	RZ	ED	---
10	---	35	DCR M	5A	MOV E,D	7F	MOV A,A	A4	ANA H	C9	RET Adr	EE	XRI D8
11	LXI D,D16	36	MVI M,D8	5B	MOV E,E	80	ADD B	A5	ANA L	CA	JZ	EF	RST 5
12	STAX D	37	STC	5C	MOV E,H	81	ADD C	A6	ANA M	CB	---	F0	RP
13	INX D	38	---	5D	MOV E,L	82	ADD D	A7	ANA A	CC	CZ Adr	F1	POP PSW
14	INR D	39	DAD SP	5E	MOV E,M	83	ADD E	A8	XRA B	CD	CALL Adr	F2	JP Adr
15	DCR D	3A	LDA Adr	5F	MOV E,A	84	ADD H	A9	XRA C	CE	ACI D8	F3	DI
16	MVI D,D8	3B	DCX SP	60	MOV H,B	85	ADD L	AA	XRA D	CF	RST 1	F4	CP Adr
17	RAL	3C	INR A	61	MOV H,C	86	ADD M	AB	XRA E	D0	RNC	F5	PUSH PSW
18	---	3D	DCR A	62	MOV H,D	87	ADD A	AC	XRA H	D1	POP D	F6	ORI D8
19	DAD D	3E	MVI A,D8	63	MOV H,E	88	ADC B	AD	XRA L	D2	JNC Adr	F7	RST 6
1A	LDAX D	3F	CMC	64	MOV H,H	89	ADC C	AE	XRA M	D3	OUT D8	F8	RM
1B	DCX D	40	MOV B,B	65	MOV H,L	8A	ADC D	AF	XRA A	D4	CNC Adr	F9	SPHL
1C	INR E	41	MOV B,C	66	MOV H,M	8B	ADC E	B0	ORA B	D5	PUSH D	FA	JM Adr
1D	DCR E	42	MOV B,D	67	MOV H,A	8C	ADC H	B1	ORA C	D6	SUI D8	FB	EI
1E	MVI E,D8	43	MOV B,E	68	MOV L,B	8D	ADC L	B2	ORA D	D7	RST 2	FC	CM Adr
1F	RAR	44	MOV B,H	69	MOV L,C	8E	ADC M	B3	ORA E	D8	RC	FD	---
20	---	45	MOV B,L	6A	MOV L,D	8F	ADC A	B4	ORA H	D9	---	FE	CPI D8
21	LXI H,D16	46	MOV B,M	6B	MOV L,E	90	SUB B	B5	ORA L	DA	JC Adr	FF	RST 7
22	SHLD Adr	47	MOV B,A	6C	MOV L,H	91	SUB C	B6	ORA M	DB	IN D8		
23	INX H	48	MOV C,B	6D	MOV L,L	92	SUB D	B7	ORA A	DC	CC Adr		
24	INR H	49	MOV C,C	6E	MOV L,M	93	SUB E	B8	CMP B	DD	---		

D8 = constant, or logical/arithmetic expression that evaluates to an 8 bit data quantity.

D16 = constant, or logical/arithmetic expression that evaluates to a 16 bit data quantity.

MNEMONIC LISTING

ARITHMETIC/LOGIC INSTRUCTIONS

DIRECT ADDRESS

R→	A	B	C	D	E	H	L	M
ADD R	87	80	81	82	83	84	85	86
ADC R	8F	88	89	8A	8B	8C	8D	8E
SUB R	97	90	91	92	93	94	95	96
SBB R	9F	98	99	9A	9B	9C	9D	9E
ANA R	A7	A0	A1	A2	A3	A4	A5	A6
XRA R	AF	A8	A9	AA	AB	AC	AD	AE
ORA R	B7	B0	B1	B2	B3	B4	B5	B6
CMP R	BF	B8	B9	BA	BB	BC	BD	BE

Example: the Hex Code for ORA D is B2.

Flags affected: carry, zero, sign, parity, aux carry.

IMMEDIATE

ADI	D8	C6
ACI	D8	CE
SUI	D8	D6
SBI	D8	DE
ANI	D8	E6
XRI	D8	EE
ORI	D8	F6
CPI	D8	FE

Flags Affected: carry, zero, sign, parity, aux carry. Example: The Hex Code for ORI is F6. To be complete, the code must be followed by data. Thus F6 0F causes the data word 0FH to be OR'd with the accumulator.

ACCUMULATOR

	Flags affected	
RLC	07	only
RRC	0F	carry
RAL	17	carry
RAR	1F	carry
STC	37	carry
CMC	3F	carry
CMA	2F	none
DAA	27	all

Example: The Hex Code for STC is 37.

REGISTER PAIR

RP→	B	D	H	SP	Flags Affected
INX RP	03	13	23	33	none
DCX RP	0B	1B	2B	3B	none
DAD RP	19	29	29	39	none

Example: the Hex Code for INX SP is 33.

INPUT/OUPUT

IN	A8	DB
OUT	A8	D3

Flags affected: none. Example: the Hex Code for OUT is D3. To be complete, this code must be followed by an 8-bit address. Thus D3 FF will send the contents of the accumulator to ouput port no. FF.

REGISTER

R→	A	B	C	D	E	L	H	M
INR R	3C	04	0C	14	1C	2C	24	34
DCR R	3D	05	0D	15	1D	2D	25	35

Flags affected: zero, sign, parity, aux carry. Example: the Hex Code for DCR L is 2D.

TRANSFER OF CONTROL INSTRUCTIONS

JUMP

JMP	A16	C3
JNZ	A16	C2
JZ	A16	CA
JNC	A16	D2
JC	A16	DA
JPO	A16	E2
JPE	A16	EA
JP	A16	F2
JM	A16	FA
PCHL		E9

Flags affected: none. Example: the Hex Code for JZ is CA. To be complete, the code must be followed by an address. Thus CA 00 80 causes a jump, if zero, to location 8000H.

CALL

CALL	A16	CD
CNZ	A16	C4
CZ	A16	CC
CNC	A16	D4
CC	A16	DC
CPO	A16	E4
CPE	A16	EC
CP	A16	F4
CM	A16	FC

Flags affected: none. Example: the Hex Code for CNC is D4. To be complete, the code must be followed by an address. Thus D4 79 81 causes a call, if no carry, to location 8179H.

RETURN

RET	C9
RNZ	C0
RZ	C8
RNC	D0
RC	D8
RPO	E0
RPE	E8
RP	F0
RM	F8

Flags affected: none. Example: the Hex Code for RC is D8.

DATA TRANSFER

DIRECT

LDA	A16	3A
STA	A16	32

Flags affected: none. Example: The Hex Code for STA is 32. To be complete, these instructions must be followed by an address. Thus 32 38 00 causes the contents of the accumulator into location 0038H.

INDIRECT

register pair →	B	D
LDAX	0A	1A
STAX	02	12

Flags affected: none. Example: the Hex Code for STAX D is 12.

IMMEDIATE

destination →	A	B	C	D	E	H	L	M
MVI R,D8	3E	06	0E	16	1E	26	2E	36

Flags affected: none. Example: The Hex Code for MVI L is 2E. To be complete, these instructions must be followed by data. Thus 2E FF causes the L register to be loaded with FFH.

REGISTER PAIR

register pair →	B	D	H	SP
LXI RP	01	11	21	31
XCHG	EB			
XTHL	E3			
SPHL	F9			
PCHL	E9			
SHLD A16	22			
LHLD A16	2A			

Flags Affected: none. Example: the Hex Code for XTHL is E3.

MOV—DIRECT REGISTER TO REGISTER

destination → / source ↓	A	B	C	D	E	H	L	M
A	7F	47	4F	57	5F	67	6F	77
B	78	40	48	50	58	60	68	70
C	79	41	49	51	59	61	69	71
D	7A	42	4A	52	5A	62	6A	72
E	7B	43	4B	53	5B	63	6B	73
H	7C	44	4C	54	5C	64	6C	74
L	7D	45	4D	55	5D	65	6D	75
M	7E	46	4E	56	5E	66	6E	

Example: The code for MOV A, H is 7C. Flags Affected: none.

STACK OPERATIONS

register pair →	B	D	H	PSW
PUSH RP	C5	D5	E5	F5
POP RP	C1	D1	E1	F1
SPHL	F9			
XTHL	E3			

CONTROL INSTRUCTIONS

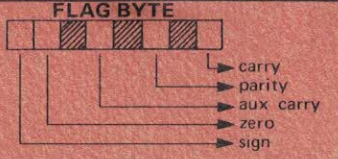
RESTART

RST 0	C7	Flags Affected: none. Example: the Hex Code for RST 5 is EF.
RST 1	CF	
RST 2	D7	
RST 3	DF	
RST 4	E7	
RST 5	EF	
RST 6	F7	
RST 7	FF	

CONTROL

NOP	00	Flags affected: none. Example: the Hex Code for NOP is 00.
HLT	76	
DI	F3	
EI	FB	

FLAG BYTE



KEY-BD-DSP CONVERT	80F2H 8132H	MODE-CHECK HIGH-LOW	814EH 83A1H	DISPLAY-BLANK DISPLAY-ACCUM	80CCH 809AH	DISPLAYS TO ACCUM SHIFT + ENTER	808CH 807CH	D/E TO DISPLAY DISPLAYS TO D/E	80DEH 80BCH